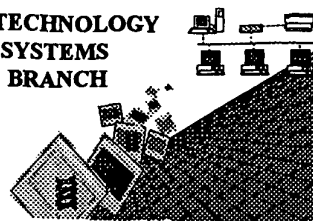


BIOTECHNOLOGY
SYSTEMS
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2/22

RAW SEQUENCE LISTING
ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/058,053
Source: OLPE
Date Processed by STIC: 2/15/2002

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FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE **CHECKER**
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Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/efc/efs/downloads/documents.htm>) , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:
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Revised 01/29/2002



OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/058,053

DATE: 02/15/2002

TIME: 14:50:11

Input Set : A:\2314-248.ST25.txt

Output Set: N:\CRF3\02152002\J058053.raw

3 <110> APPLICANT: University of Utah Research Foundation
 4 Cognetix, Inc.

5 Jones, Robert M.

6 Garrett, James E.

7 Watkins, Maren

8 Olivera, Baldomero M.

10 <120> TITLE OF INVENTION: B-Superfamily Conotoxins

12 <130> FILE REFERENCE: 2314-248

14 <140> CURRENT APPLICATION NUMBER: US/10/058,053

14 <141> CURRENT FILING DATE: 2002-01-29

14 <150> PRIOR APPLICATION NUMBER: US 60/264323

15 <151> PRIOR FILING DATE: 2001-01-29

17 <160> NUMBER OF SEQ ID NOS: 340

19 <170> SOFTWARE: PatentIn version 3.0

21 <210> SEQ ID NO: 1

22 <211> LENGTH: 456

23 <212> TYPE: DNA

24 <213> ORGANISM: Conus flavidus

26 <220> FEATURE:

27 <221> NAME/KEY: CDS

28 <222> LOCATION: (7)..(255)

30 <400> SEQUENCE: 1

31 ggatcc atg cag acg gcc tac tgg gtg atg gtg atg atg atg gtg tgg 48

32 Met Gln Thr Ala Tyr Trp Val Met Val Met Met Met Val Trp

33 1 5 10

35 att aca gcc cct ctg tct gaa ggt ggt aaa ttg aac gac gta att cgg 96

36 Ile Thr Ala Pro Leu Ser Glu Gly Gly Lys Leu Asn Asp Val Ile Arg

37 15 20 25 30

39 ggt ttg gtg cca gat gac tta acc cca cag ctt att ttg caa agt ctg 144

40 Gly Leu Val Pro Asp Asp Leu Thr Pro Gln Leu Ile Leu Gln Ser Leu

41 35 40 45

43 gat tcc cgt cgt cat gat cac ggc att cgt ccg aag aga gtc gac ata 192

44 Asp Ser Arg Arg His Asp His Gly Ile Arg Pro Lys Arg Val Asp Ile

45 50 55 60

47 tgt aac tgg agg ata tgt gca cca aac cca ttg aga cga cat gat ctt 240

48 Cys Asn Trp Arg Ile Cys Ala Pro Asn Pro Leu Arg Arg His Asp Leu

49 65 70 75

51 aag aaa gga aac aat tgacgtcaga caaccgccac aacttgagta cgacatcggt 295

52 Lys Lys Gly Asn Asn

53 80

55 aatacgactt cagcaaatat gaaattttca gcatcactgt ggttgtgaag aaatcagttg 355

57 ctttaaaagg ttggatttgt ccttggttaa gccgttgatc tgatgacatc tctgcaactat 415

59 gaaataaaagc tgatgtgaca aactaaaaaa aaaaaaaaaa a 456

PP.5.3
 Does Not Comply
 Corrected Diskette Needed

RAW SEQUENCE LISTING

DATE: 02/15/2002

PATENT APPLICATION: US/10/058,053

TIME: 14:50:11

Input Set : A:\2314-248.ST25.txt

Output Set: N:\CRF3\02152002\J058053.raw

62 <210> SEQ ID NO: 2
 63 <211> LENGTH: 83
 64 <212> TYPE: PRT
 65 <213> ORGANISM: Conus flavidus
 67 <400> SEQUENCE: 2
 69 Met Gln Thr Ala Tyr Trp Val Met Val Met Met Val Trp Ile Thr
 70 1 5 10 15
 73 Ala Pro Leu Ser Glu Gly Gly Lys Leu Asn Asp Val Ile Arg Gly Leu
 74 20 25 30
 77 Val Pro Asp Asp Leu Thr Pro Gln Leu Ile Leu Gln Ser Leu Asp Ser
 78 35 40 45
 81 Arg Arg His Asp His Gly Ile Arg Pro Lys Arg Val Asp Ile Cys Asn
 82 50 55 60
 85 Trp Arg Ile Cys Ala Pro Asn Pro Leu Arg Arg His Asp Leu Lys Lys
 86 65 70 75 80
 89 Gly Asn Asn

93 <210> SEQ ID NO: 3
 94 <211> LENGTH: 33
 95 <212> TYPE: PRT
 96 <213> ORGANISM: Conus flavidus
 98 <220> FEATURE:
 99 <221> NAME/KEY: PEPTIDE

100 <222> LOCATION: (1)..(33)

101 <223> OTHER INFORMATION: Xaa at residues 7, 20 and 22 may be Pro or hydroxy-Pro; Xaa
 at re

102 sidue 15 may be Trp (Dor L) or bromo-Trp (Dor L)

105 <400> SEQUENCE: 3

W-+> 107 His Asp His Gly Ile Arg Xaa Lys Arg Val Asp Ile Cys Asn Xaa Arg
 108 1 5 10 15
 W-+> 110 Ile Cys Ala Xaa Asn Xaa Leu Arg Arg His Asp Leu Lys Lys Gly Asn
 111 20 25 30

113 Asn

116 <210> SEQ ID NO: 4

117 <211> LENGTH: 374

118 <212> TYPE: DNA

119 <213> ORGANISM: Conus miles

121 <220> FEATURE:

122 <221> NAME/KEY: CDS

123 <222> LOCATION: (7)..(315)

125 <400> SEQUENCE: 4

126 ggatcc atg cag acg gcc tac tgg gtg atg gtg atg atg atg gtg gtg 48
 127 Met Gln Thr Ala Tyr Trp Val Met Val Met Met Val Val
 128 1 5 10
 130 ggg ctc acc gtc ggg agt cac gtc cat cgg tct cac agt cct aca tcg 96
 131 Gly Leu Thr Val Gly Ser His Val His Arg Ser His Ser Pro Thr Ser
 132 15 20 25 30
 134 cgc agc cat ggt gat gac tcc att cat gac aag acg att cat caa cat 144
 135 Arg Ser His Gly Asp Asp Ser Ile His Asp Lys Thr Ile His Gln His
 136 35 40 45
 138 ctg ttt gcc cgt ctt cct ctg gag aac aac gac gac cat cgt tct gtg 192

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/058,053

DATE: 02/15/2002

TIME: 14:50:11

Input Set : A:\2314-248.ST25.txt

Output Set: N:\CRF3\02152002\J058053.raw

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139 Leu Phe Ala Arg Leu Pro Leu Glu Asn Asn Asp Asp His Arg Ser Val
140          50          55          60
142 gat ctt cct gca ggg aat ggt gca ggc aac acc aag caa caa gac caa      240
143 Asp Leu Pro Ala Gly Asn Gly Ala Gly Asn Thr Lys Gln Gln Asp Gln
144          65          70          75
146 agt cct cat cat gtg tgt tgt gct att ggt ccg gtt ctt cca ttc tgt      288
147 Ser Pro His His Val Cys Cys Ala Ile Gly Pro Val Leu Pro Phe Cys
148          80          85          90
150 tgt gtc agt tgg ctg cac aaa ctc cat tgaactggcc aatgaaaata      335
151 Cys Val Ser Trp Leu His Lys Leu His
152 95          100
154 actcaggaat agacagaaag gcaaaaaaaaa aaaaaaaaaa      374
157 <210> SEQ ID NO: 5
158 <211> LENGTH: 103
159 <212> TYPE: PRT
160 <213> ORGANISM: Conus miles
162 <400> SEQUENCE: 5
164 Met Gln Thr Ala Tyr Trp Val Met Val Met Met Met Val Val Gly Leu
165 1          5          10          15
168 Thr Val Gly Ser His Val His Arg Ser His Ser Pro Thr Ser Arg Ser
169          20          25          30
172 His Gly Asp Asp Ser Ile His Asp Lys Thr Ile His Gln His Leu Phe
173          35          40          45
176 Ala Arg Leu Pro Leu Glu Asn Asn Asp Asp His Arg Ser Val Asp Leu
177          50          55          60
180 Pro Ala Gly Asn Gly Ala Gly Asn Thr Lys Gln Gln Asp Gln Ser Pro
181 65          70          75          80
184 His His Val Cys Cys Ala Ile Gly Pro Val Leu Pro Phe Cys Cys Val
185          85          90          95
188 Ser Trp Leu His Lys Leu His
189          100
192 <210> SEQ ID NO: 6
193 <211> LENGTH: 29
194 <212> TYPE: PRT
195 <213> ORGANISM: Conus miles
197 <220> FEATURE:
198 <221> NAME/KEY: PEPTIDE
199 <222> LOCATION: (1)..(29)
200 <223> OTHER INFORMATION: Xaa at residue 1 is Gln or pyro-Glu; Xaa at residues 6, 15
and 18
201 may be Pro or hydroxy-Pro; Xaa at residue 24 may be Trp (D or L)
202 or bromo-Trp (D or L)
205 <400> SEQUENCE: 6
W--> 207 Cys Gln Asp Gln Ser Xaa His His Val Cys Cys Ala Ile Gly Xaa Val
208 1          5          10          15
W--> 210 Leu Cys Phe Cys Cys Val Ser Xaa Leu His Lys Leu His
211          20          25
213 <210> SEQ ID NO: 7
214 <211> LENGTH: 359
215 <212> TYPE: DNA

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*"Cys" is at location 1**cys is at location 18*

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/10/058,053

DATE: 02/15/2002
 TIME: 14:50:11

Input Set : A:\2314-248.ST25.txt
 Output Set: N:\CRF3\02152002\J058053.raw

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216 <213> ORGANISM: Conus miles
218 <220> FEATURE:
219 <221> NAME/KEY: CDS
220 <222> LOCATION: (7)..(291)
222 <400> SEQUENCE: 7
223 ggatcc atg cag acg gcc tac tgg gtg atg gtg atg atg atg gtg gtg      48
224      Met Gln Thr Ala Tyr Trp Val Met Val Met Met Val Val
225      1          5          10
227 ggg ttc acc gtc ggg ggt cac gtc cat cgg tct cac agt cct aca tcg      96
228 Gly Phe Thr Val Gly Gly His Val His Arg Ser His Ser Pro Thr Ser
229 15          20          25          30
231 cgc agc cat ggt gat gac tcc att cat gac aag acg att cat caa cat      144
232 Arg Ser His Gly Asp Asp Ser Ile His Asp Lys Thr Ile His Gln His
233          35          40          45
235 ctg ttt gcc cgt ctt cct cag gag aac aac gac gac cat cgt tct gtg      192
236 Leu Phe Ala Arg Leu Pro Gln Glu Asn Asn Asp Asp His Arg Ser Val
237          50          55          60
239 gat ctt cct gca ggg act agc gca ggc gac atg aaa cca caa cgc caa      240
240 Asp Leu Pro Ala Gly Thr Ser Ala Gly Asp Met Lys Pro Gln Arg Gln
241          65          70          75
243 aga cgt ctc tgc tgc atc ttt gcc ccg att ctt tgg ttc tgt tgt cac      288
244 Arg Arg Leu Cys Cys Ile Phe Ala Pro Ile Leu Trp Phe Cys Cys His
245          80          85          90
247 ggt taacagctca aattacactg cactggccga ttgaaagaac tgcaataaac      341
248 Gly
249 95
251 ggaaaaaaaaaaaaaaaaa      359
254 <210> SEQ ID NO: 8
255 <211> LENGTH: 95
256 <212> TYPE: PRT
257 <213> ORGANISM: Conus miles
259 <400> SEQUENCE: 8
261 Met Gln Thr Ala Tyr Trp Val Met Val Met Met Met Val Val Gly Phe
262 1          5          10          15
265 Thr Val Gly Gly His Val His Arg Ser His Ser Pro Thr Ser Arg Ser
266          20          25          30
269 His Gly Asp Asp Ser Ile His Asp Lys Thr Ile His Gln His Leu Phe
270          35          40          45
273 Ala Arg Leu Pro Gln Glu Asn Asp Asp His Arg Ser Val Asp Leu
274          50          55          60
277 Pro Ala Gly Thr Ser Ala Gly Asp Met Lys Pro Gln Arg Gln Arg Arg
278 65          70          75          80
281 Leu Cys Cys Ile Phe Ala Pro Ile Leu Trp Phe Cys Cys His Gly
282          85          90          95
285 <210> SEQ ID NO: 9
286 <211> LENGTH: 14
287 <212> TYPE: PRT
288 <213> ORGANISM: Conus miles
290 <220> FEATURE:

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RAW SEQUENCE LISTING

DATE: 02/15/2002

PATENT APPLICATION: US/10/058,053

TIME: 14:50:11

Input Set : A:\2314-248.ST25.txt

Output Set: N:\CRF3\02152002\J058053.raw

291 <221> NAME/KEY: PEPTIDE
 292 <222> LOCATION: (1)..(14)
 293 <223> OTHER INFORMATION: Xaa at residue 7 may be Pro or hydroxy-Pro; Xaa at residue
 10 may
 294 be Trp (D or L) or bromo-Trp (D or L)
 297 <400> SEQUENCE: 9
 299 Leu Cys Cys Ile Phe Ala Xaa Ile Leu Xaa Phe Cys Cys His
 300 1 5 10
 302 <210> SEQ ID NO: 10
 303 <211> LENGTH: 351
 304 <212> TYPE: DNA
 305 <213> ORGANISM: Conus capitaneus
 307 <220> FEATURE:
 308 <221> NAME/KEY: CDS
 309 <222> LOCATION: (7)..(291)
 311 <400> SEQUENCE: 10
 312 ggatcc atg cag acg gcc tac tgg gtg atg gtg atg atg atg gtg gtg 48
 313 Met Gln Thr Ala Tyr Trp Val Met Val Met Met Met Val Val
 314 1 5 10
 316 ggg ttc acc gtc ggg ggt cac gtc cat cgg tct cac agt cct aca tcg 96
 317 Gly Phe Thr Val Gly Gly His Val His Arg Ser His Ser Pro Thr Ser
 318 15 20 25 30
 320 cgc agc cat ggt gat gac tcc att cat gac gag acg att cat caa cat 144
 321 Arg Ser His Gly Asp Asp Ser Ile His Asp Glu Thr Ile His Gln His
 322 35 40 45
 324 ctg ttt gcc cgt ctt cct cag gag aac aac gac gac cat cgt tct gtg 192
 325 Leu Phe Ala Arg Leu Pro Gln Glu Asn Asn Asp Asp His Arg Ser Val
 326 50 55 60
 328 gat ctt cct gca ggg act agc gca ggc gac atg aaa cca caa cgc caa 240
 329 Asp Leu Pro Ala Gly Thr Ser Ala Gly Asp Met Lys Pro Gln Arg Gln
 330 65 70 75
 332 aga ggt ttc tgc tgc gac ttt ccc ccg att ttt tgg ttc tgt tgt atc 288
 333 Arg Gly Phe Cys Cys Asp Phe Pro Pro Ile Phe Trp Phe Cys Cys Ile
 334 80 85 90
 336 ggt taacagcaca aattacactg cactggccga ttgaaagaac tgcaataaac 341
 337 Gly
 338 95
 340 ggaaaaaaaaa 351
 343 <210> SEQ ID NO: 11
 344 <211> LENGTH: 95
 345 <212> TYPE: PRT
 346 <213> ORGANISM: Conus capitaneus
 348 <400> SEQUENCE: 11
 350 Met Gln Thr Ala Tyr Trp Val Met Val Met Met Met Val Val Gly Phe
 351 1 5 10 15
 354 Thr Val Gly Gly His Val His Arg Ser His Ser Pro Thr Ser Arg Ser
 355 20 25 30
 358 His Gly Asp Asp Ser Ile His Asp Glu Thr Ile His Gln His Leu Phe
 359 35 40 45
 362 Ala Arg Leu Pro Gln Glu Asn Asn Asp Asp His Arg Ser Val Asp Leu

Use of n and/or Xaa has been detected in the Sequence Listing.
 Review the Sequence Listing to insure a corresponding
 explanation is presented in the <220> to <223> fields of
 each sequence using n or Xaa.

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/058,053

DATE: 02/15/2002

TIME: 14:50:12

Input Set : A:\2314-248.ST25.txt

Output Set: N:\CRF3\02152002\J058053.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application No
L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:107 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:110 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:207 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:210 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:299 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:388 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:467 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:470 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:511 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:513 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:558 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:561 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:644 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:647 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:732 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24
L:735 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24
L:819 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27
L:822 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27
L:867 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28
L:913 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30
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L:1014 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33
L:1017 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33
L:1020 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33
L:1118 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36
L:1121 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36
L:1124 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36
L:1207 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39
L:1210 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39
L:1308 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42
L:1311 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42
L:1314 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42
L:1403 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45
L:1406 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45
L:1490 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48
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L:1578 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51
L:1667 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:1670 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:1763 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:57
L:1766 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:57
L:1769 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:57
L:1850 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60
L:1853 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60
L:1945 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:63

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/058,053

DATE: 02/15/2002

TIME: 14:50:12

Input Set : A:\2314-248.ST25.txt

Output Set: N:\CRF3\02152002\J058053.raw

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L:2032 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:66
L:2115 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:69